

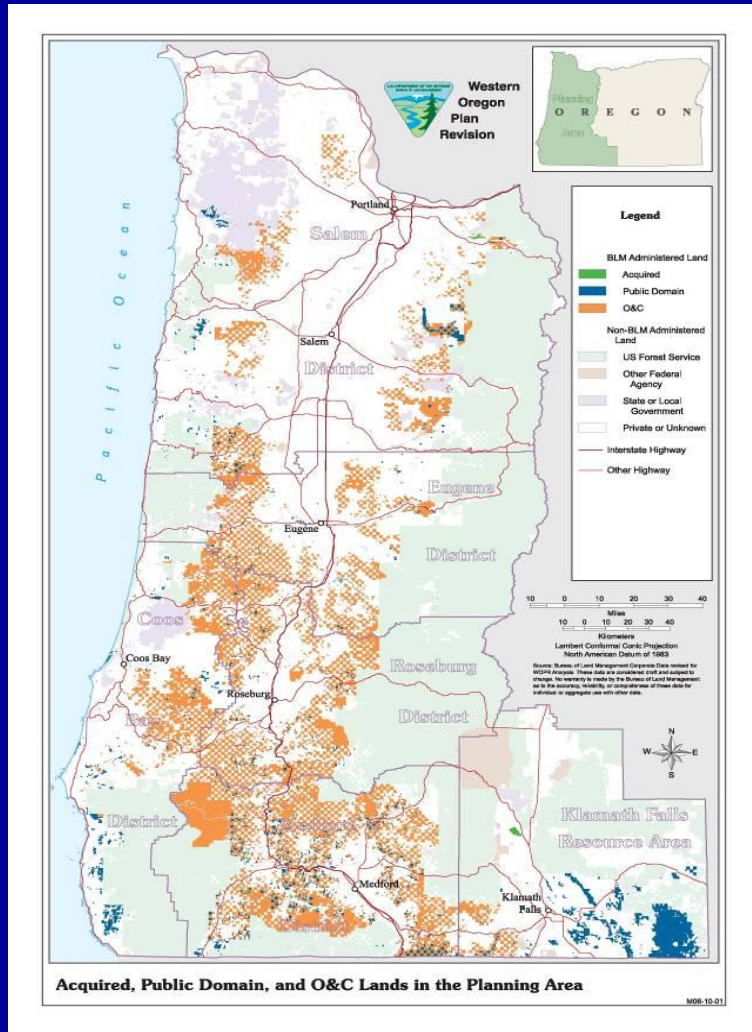
Use of GIS in Support of Combined RMPs and EIS'

Duane R Dippon
Oregon State Office
BLM, DoI

Topics to be Presented

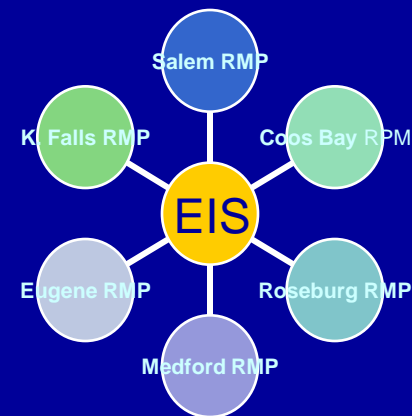
- GIS Team Lead Roles and Responsibilities
- The Role of Geospatial Data and GIS Technology in the Planning Process
- Factors for Success
- Lessons Learned and Applied

Western Oregon Plan Revision

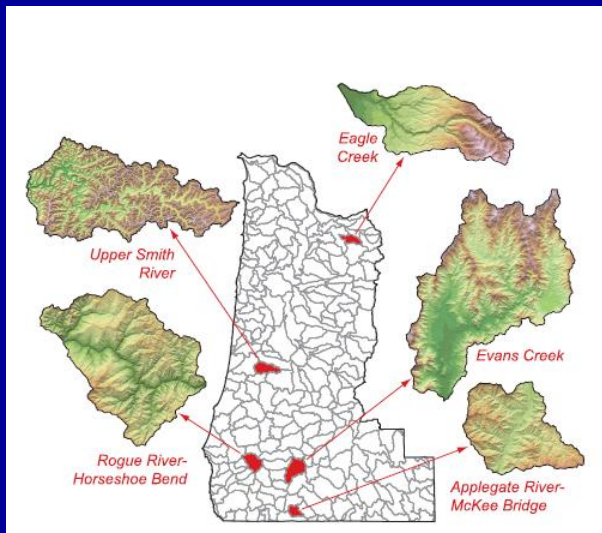
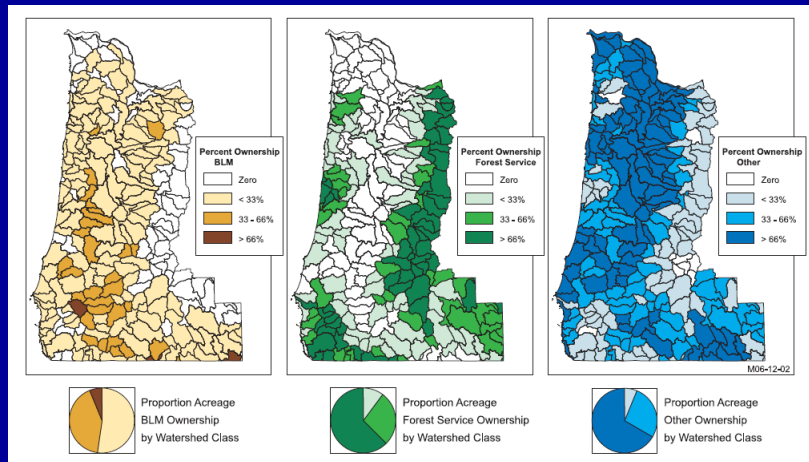


Regional Planning Effort:

- Steering Committee (8+)
- Cooperators (39)
- Project Manager (1)
- Core team (6)
- Virtual Interdisciplinary Team (18)
- Virtual GIS/IT Team (26 "part-timers")



GIS Team Lead Roles and Responsibilities



- Active Involvement from Day 1
- Budget & Contractor Mgmt
- GIS Team and GIS/IT System
- Definition of Requirements
- Education of the ID/Core Team
- Testing Ideas
- Re-definition of Requirements
- Manage the Workload
- Assist ID/Core Team creation of Maps, Figures, Charts, Tables and Web Materials
- Ensure that the "right" Data is used in all Maps, Figures, Charts and Tables for the Documents & the Web
- Create and Maintain the Administrative Record
- Prepare Data to Support Plan Implementation

Dippon

GIS Technology in Planning: Work Breakdown Structure

1.1 Project Management

- Assign Project Leader
- Develop Project Plan

1.2 Plan Groundwork

- Existing Plan Evaluation
- Preplan
- Collect Baseline Data
- Develop Communication Strategy
- Contracting
- Publish NOI

1.3 Scoping

- Communication, Coordination & Collaboration
- Scoping Report

1.4 Draft RMP/EIS

- AMS
- Formulate Alternatives
- Estimate Environmental Impacts
- Initiate Draft BA(s)
- Select Preferred Alternative
- RMP Appendix, Glossary & References
- Complete Draft RMP/EIS
- Reviews
- Print & Distribute
- Public review & Comment

1.5 NOA for Final RMP/EIS

- Complete Revised Document & Analyses
- Release Proposed RMP/EIS

1.42 Formulate Alternatives (130 days)

1.421 Public/Interagency Involvement

1.422 Alternative Matrix

- Define Development Strategy for Alternatives
- Develop Preliminary Matrix
- Refine Matrix
- Identify Actions to All Alternatives
- Alternatives to be Analyzed
- Finalize Alternative Matrix
- Develop Tables, Maps, etc
- Review by Field & Update
- Expand Tables into Text
- Alternatives Formulated

1.43 Estimate Environmental Impacts (30 days)

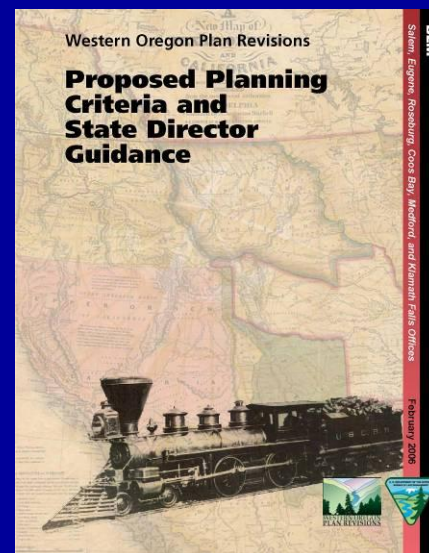
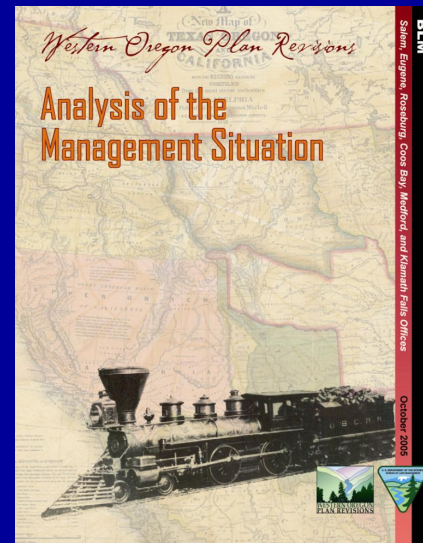
Factors for Success # 1

Planners who were willing
to do a planning process
based on fully
incorporating GIS



03/04/2009

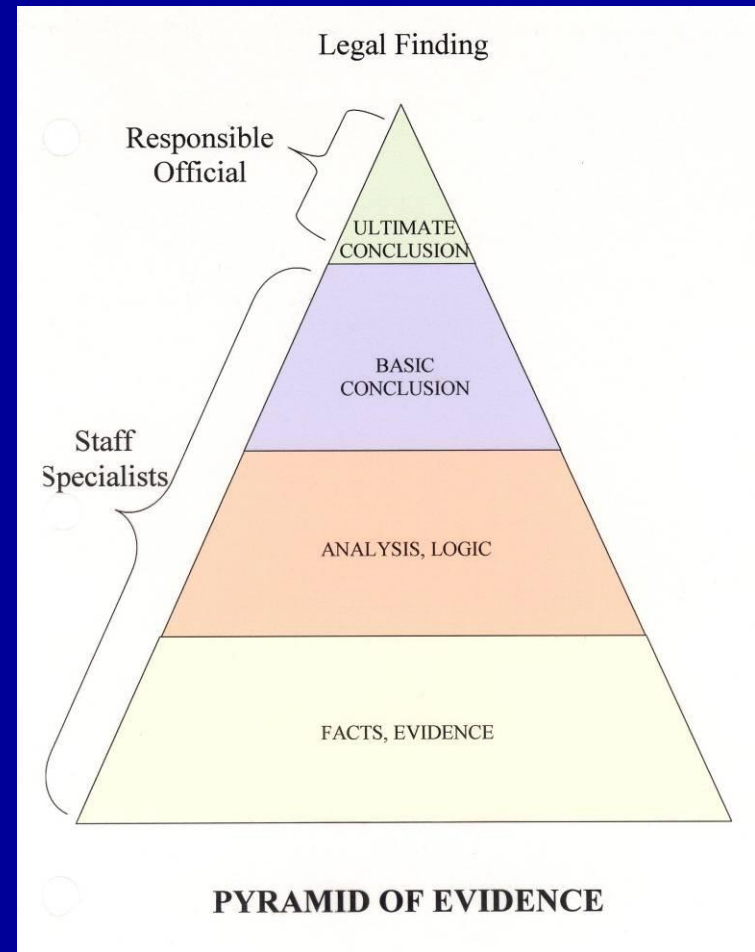
Dippon



Pyramid of Evidence

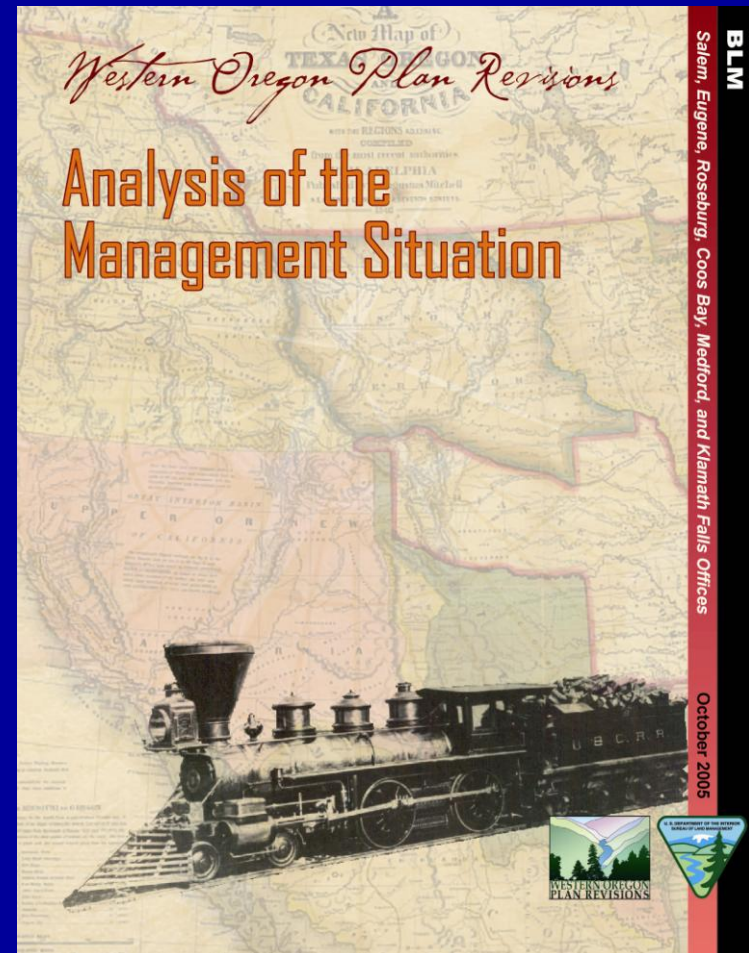
Since Resources Mgmt
is inherently spatial,

- GIS represents a fundamental technology that supports Planning,
- GIS supports the storage and integration of Facts & Evidence
- GIS supports development of Basic Conclusions based on derived analyses
- GIS represents a tool to communicate and support the Ultimate Decision



Analysis of Management Situation

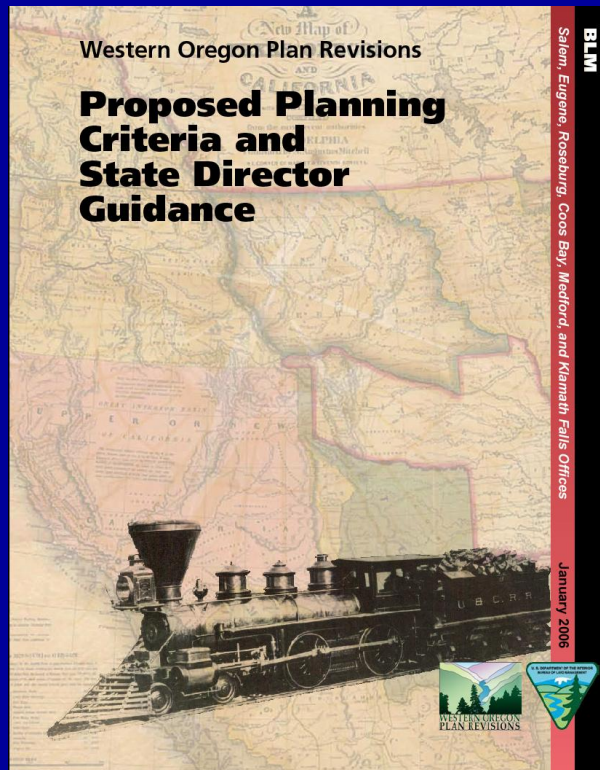
- January
 - Funding arrives
 - Dick Prather selected as Project Manager
- March
 - 1st meeting by Interdisciplinary and Core Teams
 - Begin to define requirements
 - Goal - use of short bullet statements combined with graphics
- June
 - 18 Topics
 - 12 Maps
 - 26 Tables
 - 80 Figures



Analysis, Data and Product requirements : “Proposed Planning Criteria and State Director Guidance”(203 pages)

There were 18 issues identified. Each issue had its own section addressing the following:

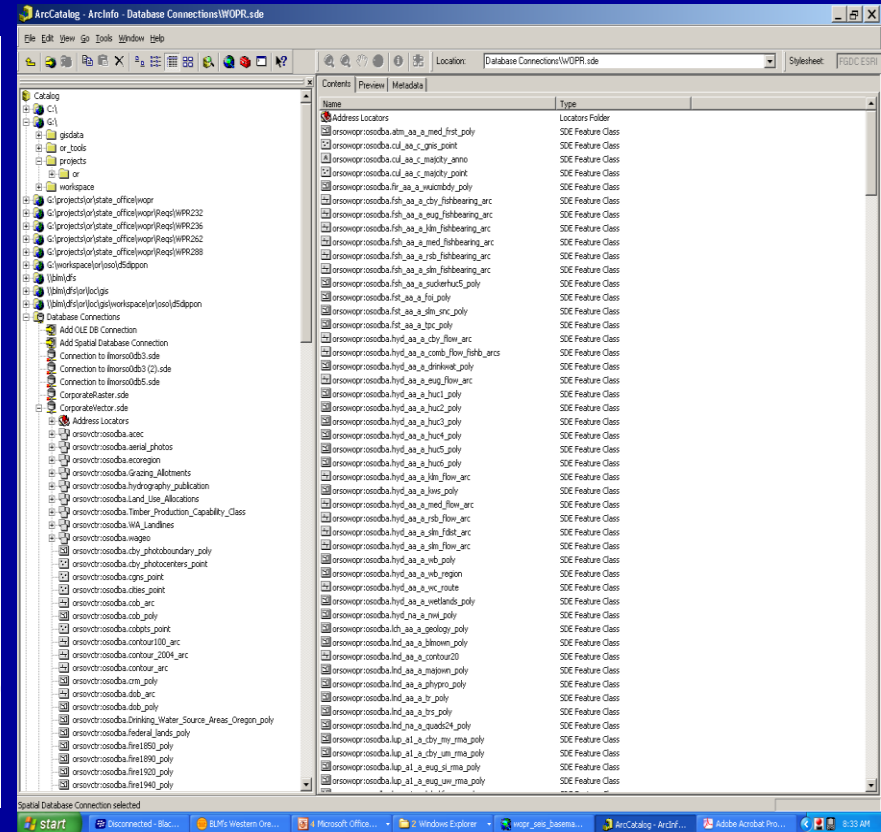
- Analytical Assumptions
- Analytical Methods and Techniques
- Analytical Conclusion
- Data Needs
- Data Display
- Questions for Scientists
- References



Issues:

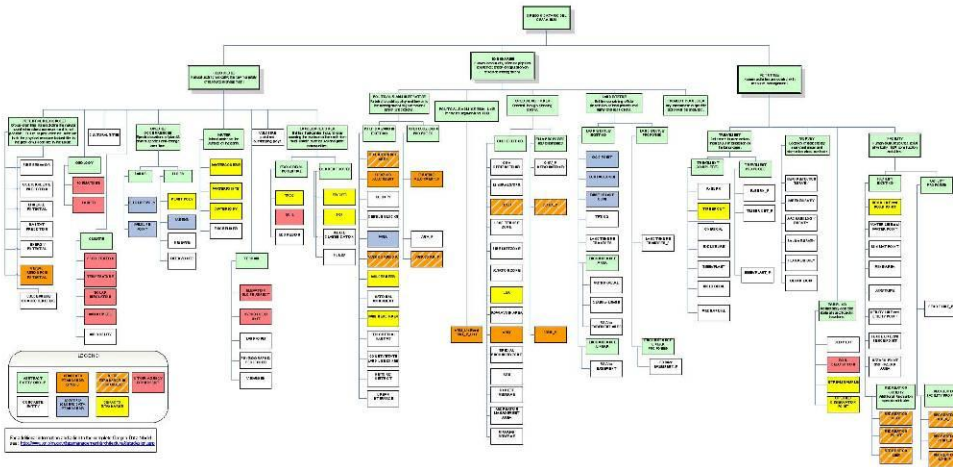
Ecology, Social/Economic, Timber and Silviculture, Forest Products, Special Status Species, Invasive Plants, Wildlife Habitat, Fisheries, Hydrology, Fire and Fuels, Air Quality, Recreation, Soils, Livestock Grazing, ACEC, Heritage and Paleontology, Transportation, Minerals and Energy

ArcGIS w/Citrix & SDE that works and can support massive data and analyses



Factors for Success # 3

Data Standards, Quality Control and Data Mgmt



ArcSDE Edit Processes User Guide and Exercises



Bureau of Land Management, Oregon State Office

Version 1

January 22, 2004

Last Revision

December 21, 2004

OR/WA Data Management Vision

- Data holdings based on business requirements;
- Data used will be of highest quality practical;
- Data will follow standards;
- Data will be fully documented;
- Data/documentation easily accessible;
- Data will be protected from harm

Factors for Success # 4

Team/Workload Management & Communications

- Team Training in Advanced GeoProcessing
- Meetings with ID/Core Teams
- Weekly Conference Calls
- E-mail
- Phone
- Assignment Tracking
- Discussion Forum
- Annual Field User Group



Workload Management

REQ-LOG Tracking System

File Edit View Insert Format Records Tools Window Help

Type a question for help

1) REQUEST TRACKING

Project Name: Western Oregon Planning Revision Project Code: WPR Request ID: 134 Go To Record: []

Associated Logs: Setup/View Associated Logs

Request Date: 01/24/2006

Requester: CHRIS CADWELL Type of Request: DATA

Contact: CHRIS CADWELL Project Team: Data

Request Description: Acquire Medford Deferrals data. This data will be used as an input to the No Action options model processes.

Assigned To: ARTHUR MILLER Assigned Date: 01/24/2006

Completion Location: Completion Date: Request Status: ACTIVE

Work Directory: Archive Date: Project Phase: No Action

Quality Check: Comments: Data initially obtained via email attachment. Source contact is Laurie Lindell.

New Record

Record: 14 of 134

Form View

FLTR

3 Windows... ArcCatalog - A... ArcCatalog - A... Untitled - Arc... Jeanne Keyes... SMMS METAD... 3 Microsoft... Microsoft Pow... WOPR Data N... 3:55 PM

REQUEST TRACKING

Project Name: Western Oregon Planning Revision Project Code: WPR Request ID: 134

Associated Logs

Log ID	Log Name	Description
WPL64	Medford deferrals (district calls) for use in No Action alternative.	

Record: 1 of 1

Done

Help Tip 1: To Associate an existing Log Record with the currently displayed Request Record: In the last blank row, choose the LogID which should be linked to this Request.

Help Tip 2: To DELETE an Association link between a Log Record and the currently displayed Request Record: Click on the Grey Row Selector, on the left edge of any row, and then press the Delete Key on keyboard.

Log Report

05-May-07

Created for: Admin

REPORT RESTRICTIONS:

Page 29 of 82

Lists: mmhab.html
mmhab.zip

Project Code: WPR

External Contact: STEVE SALAS

Log Name: WPL58

Transaction Type: Incoming

Log Date: 12/05/2005

LogID: 58

Transfer Method: HARDDRIVE

Format: GEODATABASE

Project Contact: Arthur Miller

Logged By: Jeanne Keyes

Log Status: COMPLETED

Log Description: Obtain FOI snapshot.

Lists: Wopr_Dec5_2005.mdb

Project Code: WPR

External Contact: CHRIS CADWELL

Log Name: WPL59

Transaction Type: Incoming

Log Date: 12/06/2005

LogID: 59

Transfer Method: HARDDRIVE

Format: GEODATABASE

Project Contact: Arthur Miller

Logged By: Jeanne Keyes

Log Status: COMPLETED

Log Description: Snapshot of TPCC polygons

Project Code: WPR

External Contact: CHRIS CADWELL

Log Name: WPL60

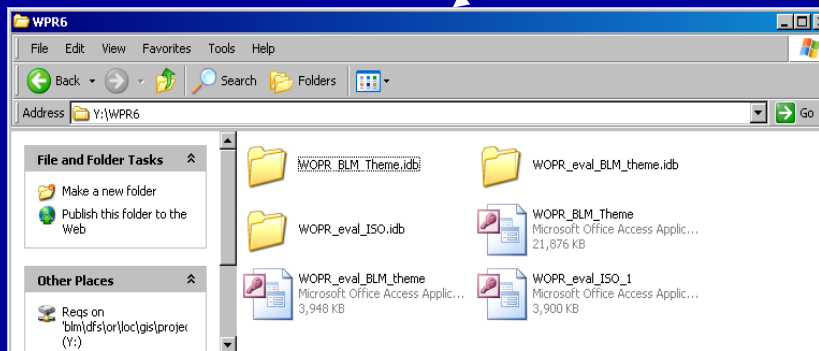
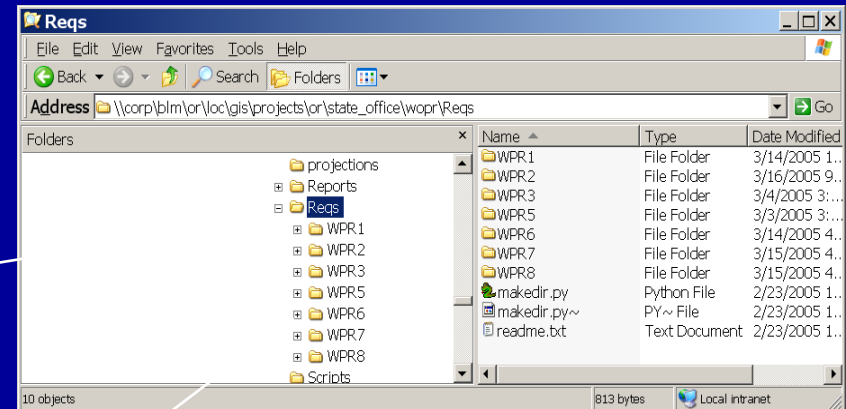
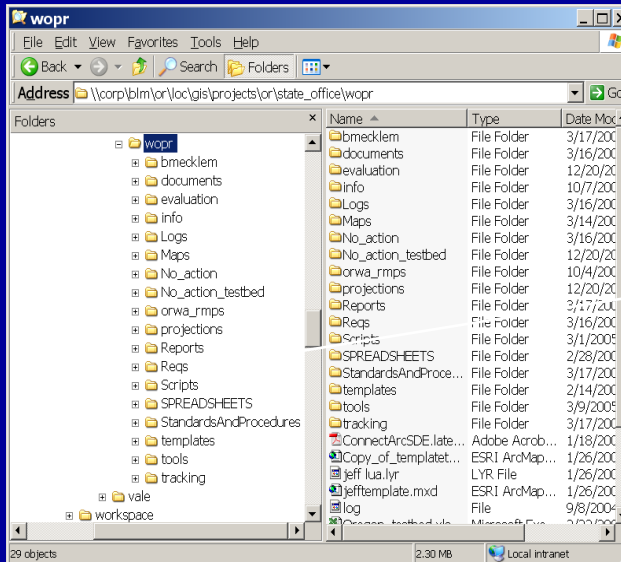
Transaction Type: Incoming

rptLog

29

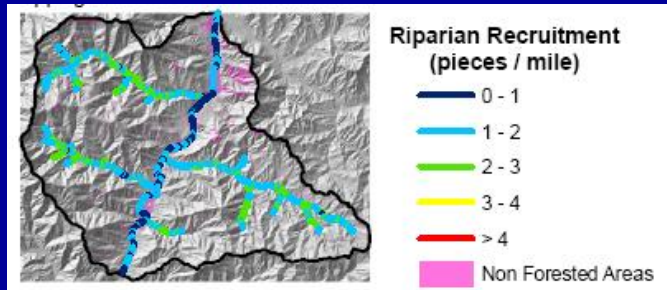
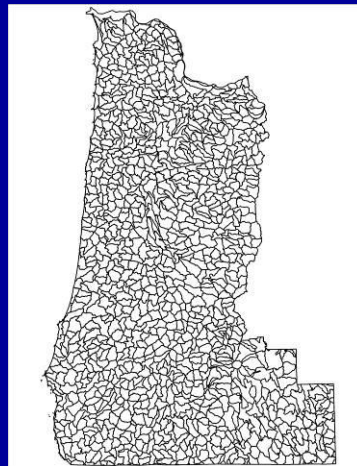
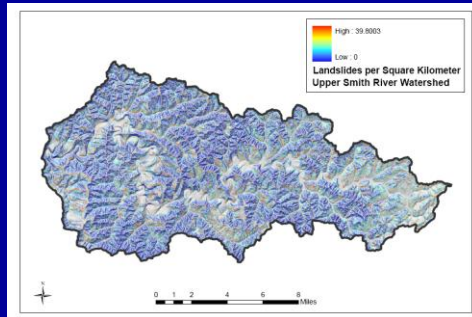
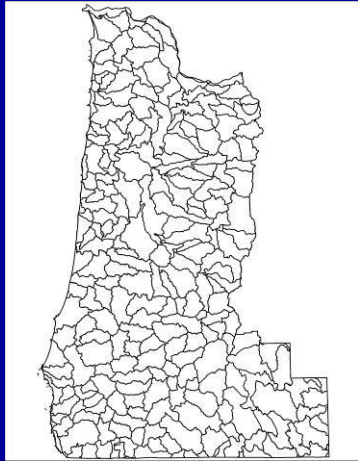
WOPR Directory Structure

- Central Space for all WOPR Spatial data and related information
- Stores all ancillary folders for documents, tools, maps, templates, utilities etc.
- Stores all WOPR Task Folders



Factors for Success # 5

Automated Modeling and Analyses Processes

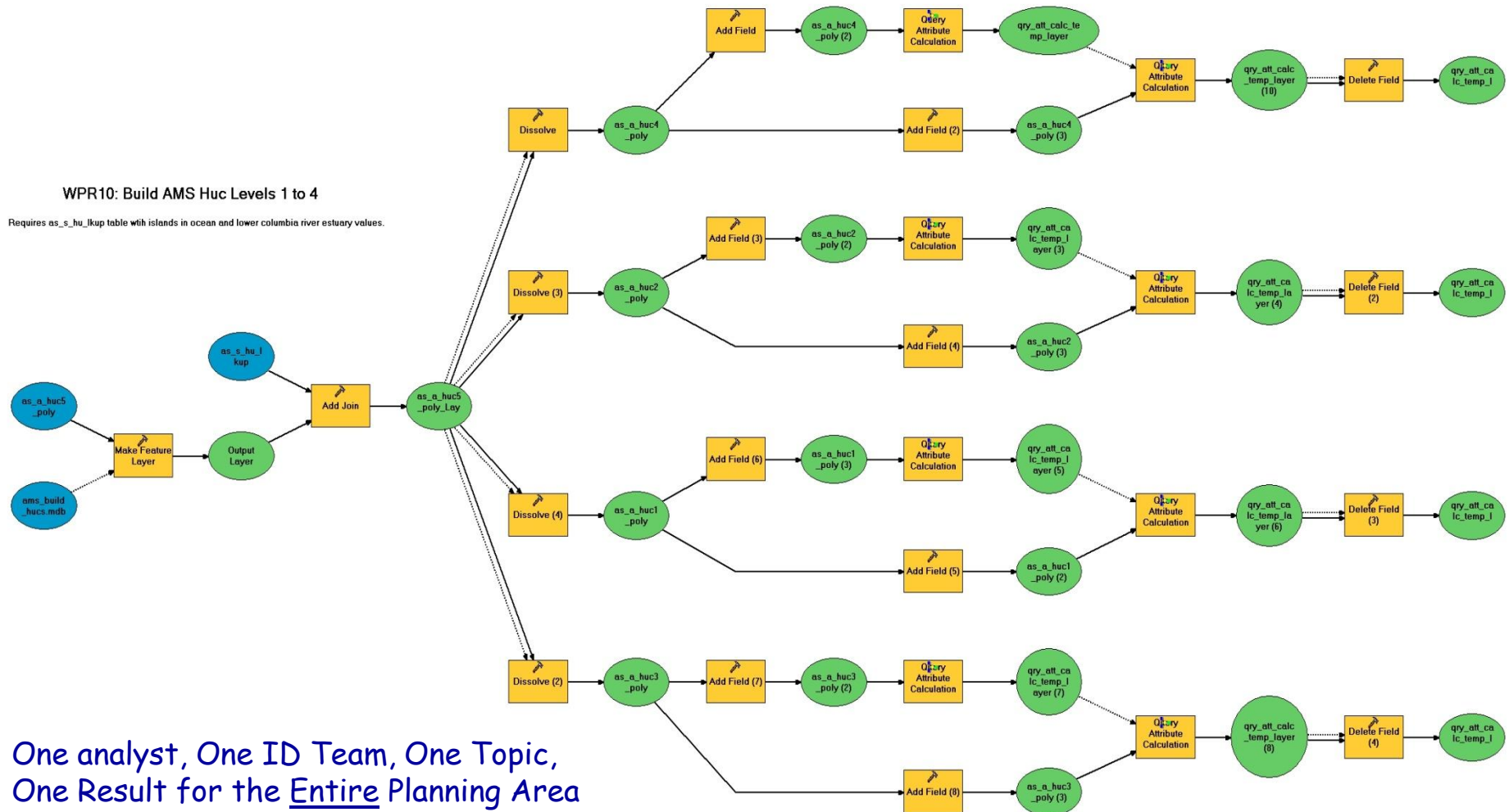


- Transparent
- Public domain
- Reproducible

Consistent Cumulative Effects Analyses across Time and Space

WPR10: Build AMS Huc Levels 1 to 4

Requires as_s_hu_kup table with islands in ocean and lower columbia river estuary values.



One analyst, One ID Team, One Topic,
One Result for the Entire Planning Area

Factors for Success # 6

Automated Reports and Documentation: Crystal Reports & ModelBuilder

31-Oct-2008

Projected Northern Spotted Owl Habitat by Sustainable Yield Unit
(No Action Alternative, OFFICIAL Acres)

This report was created for Western Oregon Plan Revision, No Action Alternative. Areas represented are in acres, on BLM lands only, based on FOVILI common BLM ownership, and as used in Options harvest modelling. Note that this projected alternatives data does not contain information for the Klamath Falls East Sustainable Yield Unit and therefore is smaller than the BLM area for the entire WOPR plan area. Areas are based on 10 meter raster data.

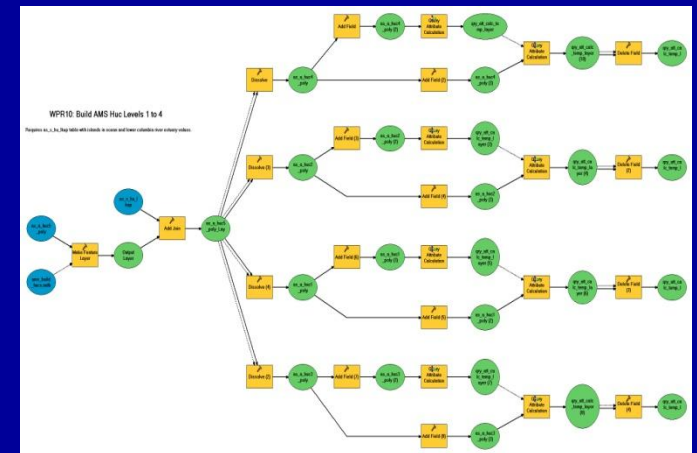
NSO 1 = Non Habitat, NSO 2 = Dispersal, NSO 4 = Suitable and Dispersal.

Sustainable Yield Unit	Sustainable Yield Unit Total BLM Area	NonForest	Roads	Year 0	Year 10	Year 20	Year 50	Year 100	
Coos Bay	321,203	9,099	10,163	18,992	13,481	8,258	14,390	11,067	NSO 1
				134,314	137,553	118,899	48,227	31,809	NSO 2
				131,007	138,884	161,439	229,307	250,447	NSO 4
Eugene	312,289	3,438	10,413	20,201	11,611	6,227	12,628	14,504	NSO 1
				156,863	142,182	119,518	45,657	37,136	NSO 2
				108,972	135,719	161,511	229,216	237,986	NSO 4
Klamath	51,310	2,151	1,891	3,969	2,328	1,434	3,053	2,061	NSO 1
				6,132	8,267	9,949	12,201	12,995	NSO 2
				33,699	33,212	32,023	26,588	29,025	NSO 4
Medford	866,796	52,402	25,744	53,068	41,362	48,378	96,820	130,773	NSO 1
				237,937	233,006	216,584	152,694	100,122	NSO 2
				459,284	471,630	480,771	502,619	542,813	NSO 4
Roseburg	423,633	9,162	14,997	37,625	39,118	29,771	51,290	58,465	NSO 1
				123,097	129,105	129,752	77,505	42,291	NSO 2
				212,585	212,479	216,346	250,590	283,922	NSO 4
Salem	402,248	11,055	12,903	28,235	12,090	5,629	12,521	11,325	NSO 1
				161,563	155,337	126,875	47,804	29,071	NSO 2
				174,711	204,426	237,961	309,983	331,113	NSO 4
WOPR Total:	2,377,480	87,307	76,111						

na_opt_SYU_NSO_rpt

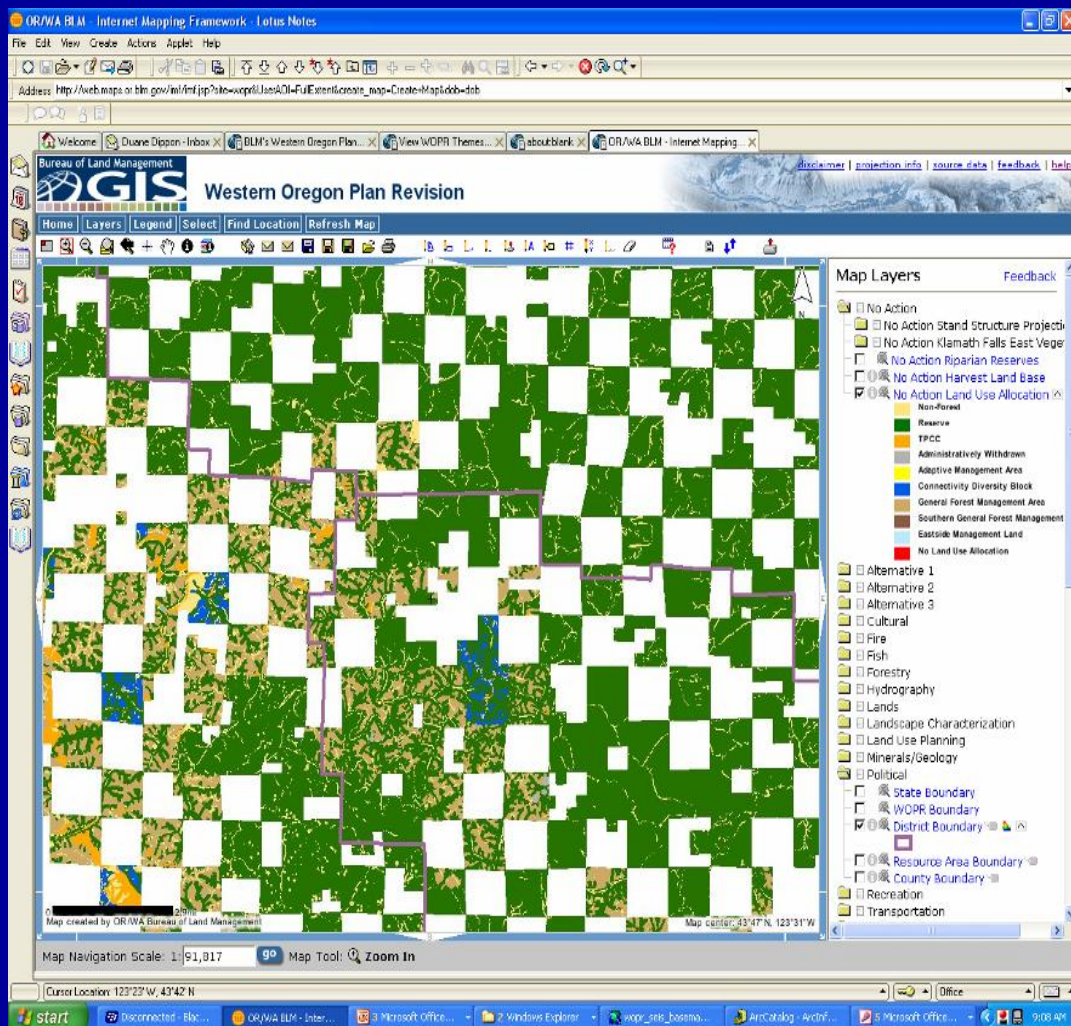
ORWA BLM, Western Oregon Plan Revision

Page 1 of 1



Factors for Success # 7

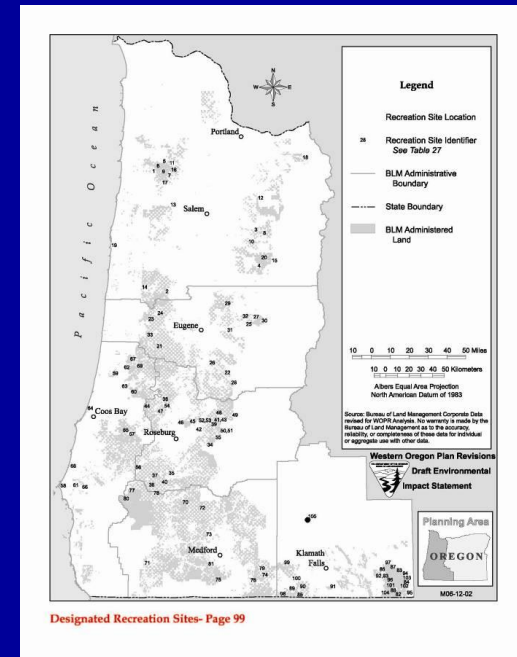
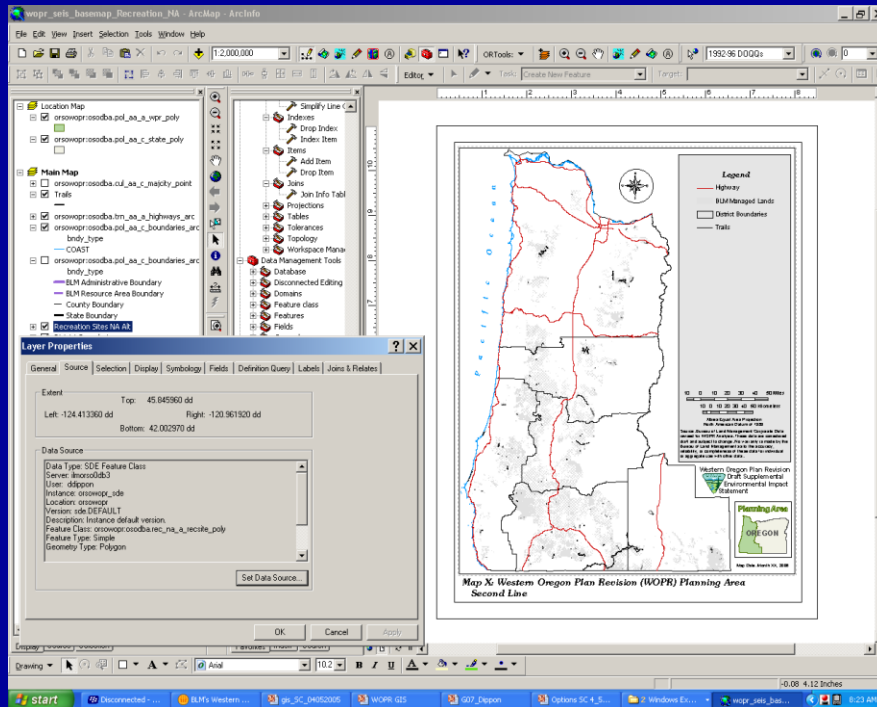
Link ID Team & District Support/QC Processes to the geodatabase



- Wilderness Inventory
- Areas of Critical Concern
- Data Quality Control
- Interdisciplinary & Core Team Member data review

Factors for Success # 8

Automated geospatial data integrated with Cartography,
integrated with Document generation and the Web

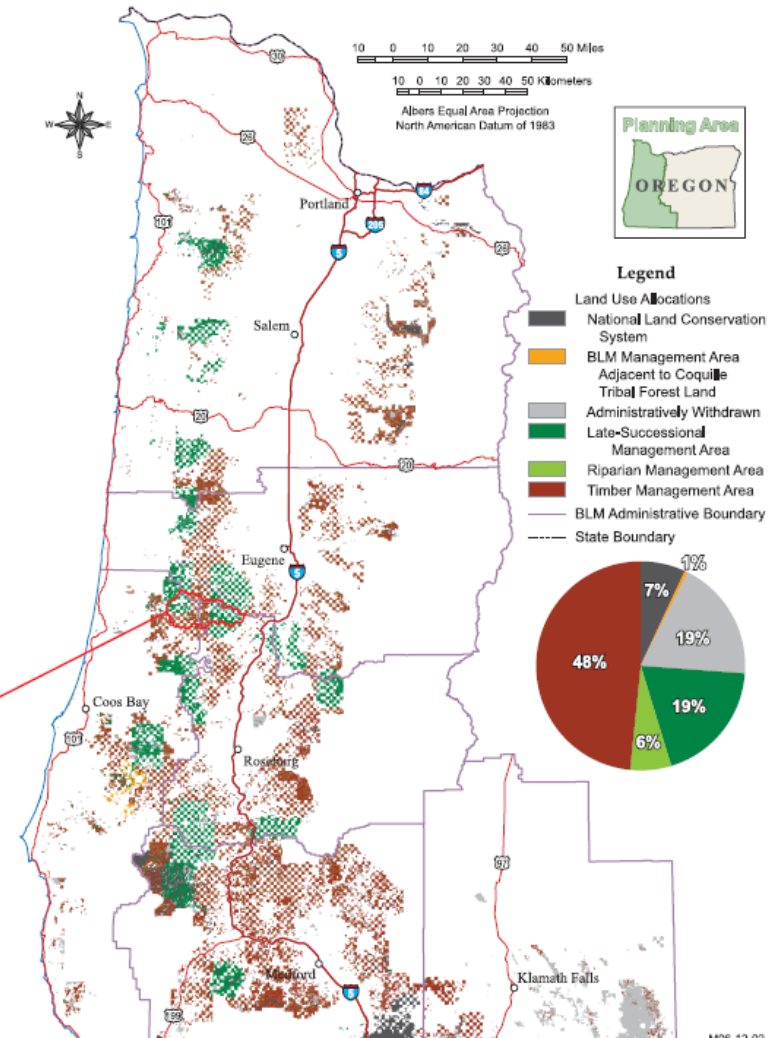
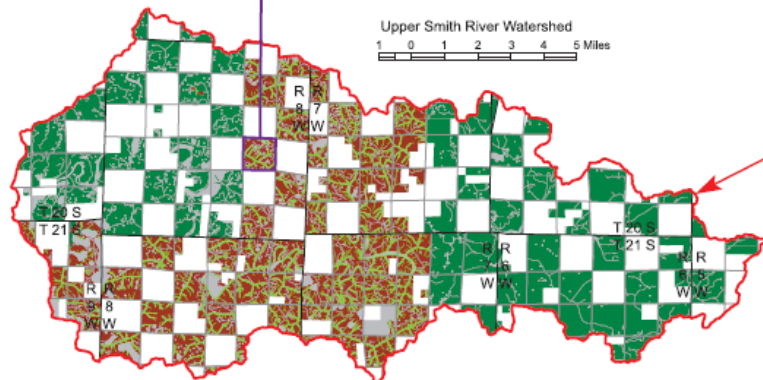
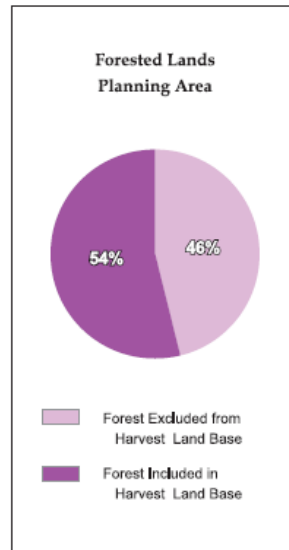
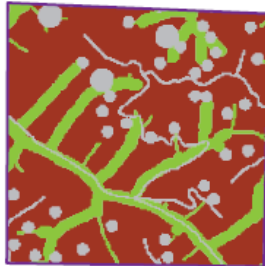


Land Use Allocations

Western Oregon Plan Revisions Draft Environmental Impact Statement

Source: Bureau of Land Management Corporate Data revised for WOPR Analysis. No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual or aggregate use with other data.

Township 20 South, Range 8 West, Section 23
0.25 0 0.25 0.5 0.75 1 Mile



Factors for Success # 9

GIS Support for Web



Western Oregon Plan Revision Web Forum - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Home Print Links Wally WOPR eFax WES wopro Edit Doc Expl SnagIt

Address <http://www.daylightdecisions.com/wopro/> Go Contribute Edit in Contribute Post to Blog

Home Public Events Contacts Exit

WOPR Web Forum

Draft EIS Interactive Map What's This All About

Welcome to the WOPR Web Forum!

This website is all about getting your help to improve the Bureau of Land Managements Resource Management Plans in western Oregon. Here's the idea: your comments can influence the direction the plan revisions take, as well as encourage a more responsive process between public and agency.

Before diving headfirst into the Draft EIS or Interactive Map, you might want to wade around in the What's This All About section, where you'll find a great deal of background information. If you get hung up along the way, any questions you have should be answered there.


Please keep in mind that the comment period runs from August 9 until November 9, 2007.



Draft EIS
Jump into the Draft Environmental Impact Statement, explore and **make comments now.**



Interactive Map
Jump into a map, explore the plan alternatives, tour the landscape and **make comments now.**



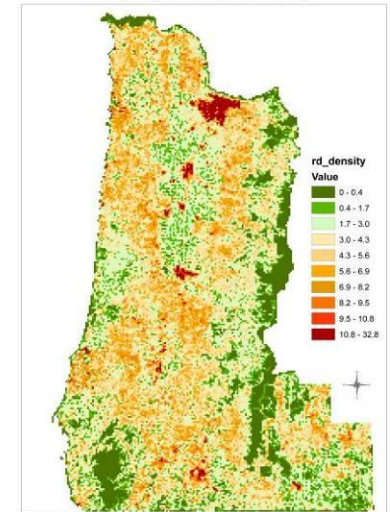
What's This All About
Learn how your input fits into the process, and discover all you want to know about the plan revisions.

Done Internet

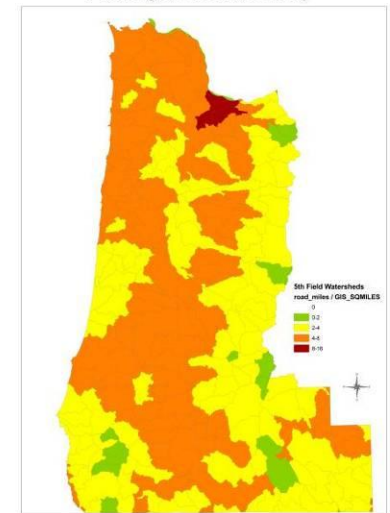
Major Milestones

- Form Team, Team Training: Advanced GeoProcessing in ArcGIS 9
- Establish the IT/GIS Infrastructure
- Establish the Geospatial Database
- Analysis of Management Situation
- Support Scoping
- Planning Criteria
- Support Creation of Alternatives
- "Feed" OPTIONS Model
- Support District QC
- Generate Analysis of Effects
- Create figures, graphs, maps and charts for the draft EIS
- Support Public Involvement/Daylight Decisions
- Generate the Final EIS and Six RMPs
- Support Implementation

Planning Area Road Density



Planning Area Road Density



Results and Lessons Learned

Cons—

- Data without standards was a constant problem
- New infrastructure paradigm took 'getting used to'
- Technology is constant state of flux
- Human Nature comes into play
- We had to use ArcInfo grid more than we planned because at 9.1 there was no .VAT file

Pros—

- Infrastructure worked
- Human elements worked well
- Task tracker and log system were central to keeping track of where we were.
- Model builder and python were instrumental in accomplishing work and document, and re-running the process with different parameters
- ArcGIS was really productive for creating maps, charts and graphs, and tables.

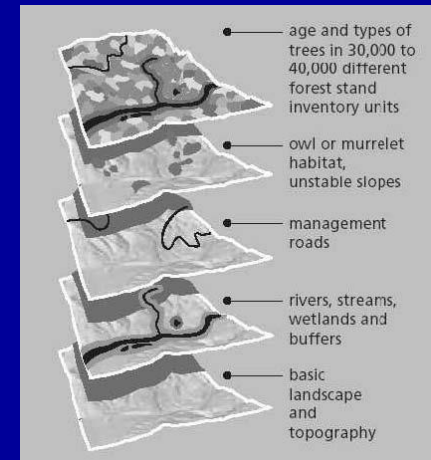
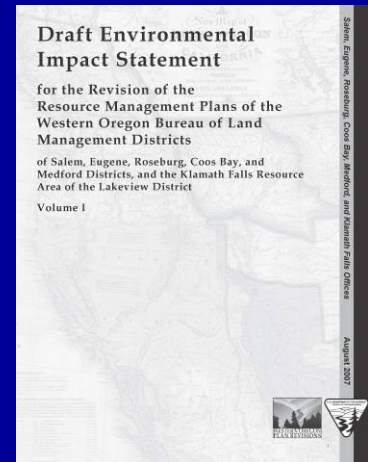
Conclusions:

- Three years ago, unproven, uncertain, unsure how to accomplish the task.
- Now, fully successful, never the bottleneck.
- Fraction of cost versus original planning effort.
- Supported distributed, team of GIS/IT, Interdisciplinary and Core Team.
- Easily scalable, highly flexible process.
- The OR/WA Resources/GIS/IT Team knows how to make this work.
- All RMPs in OR/WA can be centralized and supported by a virtual team.

Factors for Success #10

Plan Implementation

- Create a customized multi- resource geodatabase for each Office
- Implement the Data Framework, Data Stewardship, & SDE/Citrix - based update process,
- Supports:
 - Programmatic Reports
 - Decisions
 - Activity Tracking
 - Monitoring
 - Assessments
- Rebuild & Update Annually



Transactional Data Stewardship Integrated w/AIM

- Activity Tracking...
 - Develop User Requirements with Program Leads & Field Office Specialists
 - Follow Oregon Data Framework
 - Rather than build a new geodatabase application like ARIMS, GeoBob, FAMMs
- Use existing Transactional SDE Server
 - Data Stewards trained to update and maintain
 - Citrix & Server technology supports access, use and support for resources business processes at FO , DO and SO
- Resources Assessments & Planning...
 - The geospatial data used in WOPR came from exiting database applications:
 - But also many simple themes:
 - FOI, LLI, GTRN, GRA, IRDA, TPCC, TSI
 - Choose a piece of landscape:
 - Define information requirements
 - Select relevant geospatial data
 - Generate a custom, integrated geodatabase
 - Generate analyses and reports

As Bureau Data is Standardized

- Virtual GIS/IT Teams can support Virtual Resources Teams.
- Virtual GIS/IT Teams can work with virtual hardware and software,
 - The hardware and centralized data could be in Portland, Boise, Denver ...
 - The Bureau can create and manage teams comprised of people and hardware assets scattered across the Bureau.
- The knowing how, now needs to be integrated with the Bureau's business processes and priorities.
- Next Steps?

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